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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/704,968	11/02/2000	Tetsuo Shibamura	097929-4689	4432

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EXAMINER

HUANG, EVELYN MEI

ART UNIT	PAPER NUMBER
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1625

DATE MAILED: 11/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/704,968	Applicant(s) SHIANUMA ET AL.	
	Examiner Evelyn Huang	Art Unit 1625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 August 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11 and 26-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11 and 26-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 11, 26-28 are pending. Claims 1-10, 12-21 have been canceled according to the supplemental amendment filed on 3-9-2004. Claims 22-25 have been canceled according to the amendment filed on 8-2-2004.

Claim Rejections - 35 USC § 112

2. The 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement is maintained because it is applicable to new claims 26-28.

The subgenus recited in claims 26-28 is not described in the specification, although species falling within the subgenus is described in the specification as Applicant points out in the Remarks. The court, however, has held that 'whatever may be the viability of an inductive-deductive approach to arriving at a claimed subgenus, it cannot be said that such a subgenus is necessarily described by a genus encompassing it and a species upon which it reads.' In re Wilder, 736 F.2d 1516, 1520, 222 USPQ 369, 372 (Fed. Cir. 1984). See MPEP 2163.05. Furthermore, a description for the instant R8, R9, R10 is not found in the specification.

Claim Rejections - 35 USC § 112

3. The rejection for Claim 11 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention is withdrawn because the amendment has obviated the rejection.

Claim Rejections - 35 USC § 102

4. The cancellation of Claims 22, 24, 25 has rendered moot the rejection under 35 U.S.C. 102(b) as being anticipated by Sugihara (Analytical Sciences, 1993, 9:593-597, PTO-1449).

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Double Patenting

5. The provisional rejection under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 13, 14 of copending Application No. 10/656659 is maintained for reasons of record because it is applicable to new claim 27, corresponding to the canceled claim 24 (formula III).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 11, 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sugihara (Analytical Sciences, 1993, 9:593-597, PTO-1449).

Sugihara discloses 1,10-phenanthroline compounds as neutral carriers for Li^+ sensitive electrodes.

Sugihara's compounds 4 and 6 have a methyl and butyl respectively whereas the compound of instant claim 11 has an ethyl, propyl or pentyl as R1 or R2 (corresponding to R in Sugihara).

Sugihara's compound 8 has an ethyl whereas the compound of instant claim 28 has a methyl as R10.

The instant is therefore the adjacent homolog of the prior art compound. The prior compound suggests the instant. These adjacent homologs are of sufficiently close structural similarity that there is a presumed expectation that such compounds possess similar properties. In re Wilder, 195 USPQ, 426. Indeed, Sugihara's compound 4, 6, 8 have similar selectivity (page 595, Table 1).

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At the time of the invention, one of ordinary skill in the art would be motivated to replace the substituent of Sugihara's example compound with the adjacent homolog to arrive at the instant invention with the reasonable expectation of obtaining an additional compound useful as neutral carriers for Li^+ sensitive electrodes.

8. Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sugihara (Analytical Sciences, 1993, 9: 593-597, PTO-1449) in view of Daniel (4853090).

Sugihara discloses 1,10-phenanthroline compounds as neutral carriers for Li^+ sensitive electrodes.

Sugihara's Compound 14 (page 593) differs from the instant compound in not having a methyl on the 2, 9 -diphenyl substituents on the phenanthroline. The instant methylphenyl is therefore homologous to the unsubstituted phenyl of Sugihara.

However, an addition of a methyl to a known compound is ordinarily not patentable. In re Wood 199 USPQ 137; In re Lohr, 137 USPQ 548. The reference suggests the instant. The skilled artisan would be motivated to modify Sugihara's compound by the addition of a methyl to the phenyl on the phenanthroline to arrive at the instant invention because compounds of such close structural relationship are expected to have similar activities. Furthermore, in a similar lithium ion-selective electrodes based on 1, 10-phenanthroline, Daniel teaches that the phenyl may be optionally substituted with alkyl(s) (column 6, lines 5-38) An example of methyl substituted phenyl is described (column 35, compound XXI; column 37, compound XXVI). The skilled artisan would therefore be motivated to modify Sugihara's compound by addition of methyl(s) to the phenyl as taught by Daniel to arrive at the instant invention because compounds of close structural relationship are expected to have similar activities.

Conclusion

9. No claims are allowed.

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10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Evelyn Huang whose telephone number is 571-272-0686. The examiner can normally be reached on Tuesday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cecilia Tsang can be reached on 571-272-0562. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Evelyn Huang

Primary Examiner

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